

What is claimed is:

1. A camera calibration system comprising:  
  
a first transmitter for transmitting a first signal;  
  
a second transmitter for transmitting a second signal;  
  
a second receiver;  
  
a third transmitter for transmitting a first plurality of signals, said second receiver and said third transmitter being movable together as a common unit so that said second receiver receives said first signal and said second signal and so that said first plurality of signals are receivable by a first camera to be calibrated; and  
  
a processor in electrical communication with said second receiver and the first camera, said processor being capable of receiving a second plurality of signals from the first camera to be calibrated, said second plurality of signals indicative of receipt of said first plurality of signals, said processor capable of generating a third signal indicative of calibration of the first camera and being configured to determine a relative coordinate system of said common unit, said first transmitter and said second transmitter, and the first camera based at least in part on said first signal, said second signal, and said second plurality of signals.
2. The camera calibration system according to claim 1, wherein said processor forms part of said common unit.
3. The camera calibration system according to claim 1, wherein said first signal and said second signal are selected from the group consisting of light, sound and magnetic fields.

4. The camera calibration system according to claim 1, wherein said processor is configured to update said relative coordinate system based on movement of one of said common unit and said first transmitter.
5. The camera calibration system according to claim 1, wherein said processor is configured to relate a second camera to be calibrated to said relative coordinate system when the second camera receives a third plurality of signals from said third transmitter and said processor receives a fourth plurality of signals from the second camera.
6. The camera calibration system according to claim 1, wherein said processor is connectable to a security monitor.
7. The camera calibration system according to claim 5, wherein said first plurality of signals are at least eight in number and said third plurality of signals are at least eight in number.
8. The camera calibration system according to claim 7, wherein said processor is capable of generating a single image based in part on said first plurality and said third plurality of signals.
9. A method of calibrating cameras comprising:  
  
transmitting a first signal from a first position;  
  
transmitting a second signal from a second position;  
  
positioning a movable unit in a third position so that said movable unit receives said first signal and said second signal when in said third position and so that said movable unit has a location device within a field of view of a first camera to be calibrated;

transmitting a first plurality of signals from said location device receivable by the first camera;

transmitting a second plurality of signals to a processor from said first camera said second plurality of signals representative of receipt of said first plurality of signals;

determining a relative coordinate system based in part on said first, second and second plurality of signals; and

moving said movable unit to a fourth position such that said movable unit receives each of said first and said second signals and said location device is within a field of view of a second camera to be calibrated.

10. The method according to claim 9, further comprising transmitting a third plurality of signals from said location device and calibrating a relative position between the first camera and the second camera based in part on said second plurality of signals and said third plurality of signals.
11. The method according to claim 10, further comprising transmitting the first signal from a fifth position; transmitting the second signal from a sixth position; moving said movable unit to a seventh position in a field of view of a third camera; so that said movable unit capable of receiving each of said first and the second signals.
12. The method according to claim 11, further comprising transmitting a fourth plurality of signals from said location device; and relating said third camera to said relative coordinate system based in part on at least one of the first signal and said second signal and said fourth plurality of signals.

13. The method according to claim 12, wherein each of said plurality of signals number at least eight signals.
14. The method according to claim 12, wherein the first camera is capable of receiving said fifth plurality of signals from said location device to enhance said relative coordinate system.
15. A method of calibrating cameras comprising:  
  
transmitting a first signal from a first position;  
  
transmitting a second signal from a second position;  
  
transmitting a first plurality of signals from a movable position within a field of view of a second sensor, said movable position having a processor and a first sensor in electrical communication with one another, said processor capable of receiving a second plurality of signals from said second sensor;  
  
determining a relative coordinate system based in part on said first signal said second signal, said second plurality of signals; and  
  
moving said movable position to a third position in a field of view of a third sensor such that said first sensor receives said first and said second signals.
16. The method according to claim 15, further comprising transmitting a third plurality of signals from said movable position, and transmitting a fourth plurality of signals to said processor and relating a third sensor to said second sensor, based in part on said first signal, said second signal and said third plurality of signals.

17. The method according to claim 16, wherein said first plurality and said third plurality of signals are each eight in number.
18. The method according to claim 15, wherein the second sensor and the third sensor have mutually exclusive fields of view.
19. The method according to claim 16, wherein said processor is connectable to a security monitor and capable of manipulating said second plurality of signals and said fourth plurality of signals.
20. The method according to claim 15, further comprising transmitting the first signal from a fourth position and transmitting the second signal from a fifth position.
21. The method according to claim 18, further comprising moving said movable position to a sixth position in a field of view of a fourth sensor such that said fourth sensor senses each of the first signal in a fourth position and the second signal in a fifth position; transmitting a fifth plurality of signals from said movable position; and relating the fourth sensor to the second sensor and the third sensor to said relative coordinate system based at least in part on the second plurality of signals, said fourth plurality of signals and said fifth plurality of signals.
22. The method according to claim 19, wherein said second sensor is capable of sensing a sixth plurality of signals from said movable position.